Amendments to the Claims

The listing of claims below will replace all prior versions and listings of claims in the present application.

Claim Listing

1. (Currently Amended) A network including one or more nodes connected by first and second rings formed by two or more transmission media, each transmission media including one or more signal channels, the network comprising:

a first node;

a second node connected to the first node by a first transmission media adapted to transmit transit data from the first node to the second node and a second transmission media adapted to transmit transit data from the second node to the first node;

a third node connected to the second node by a third transmission media adapted to transmit transit data from the second node to the third node and a fourth transmission media adapted to transmit transit data from the third node to the second node;

a fourth node connected to the first node by a fifth transmission media adapted to transmit transit data from the fourth node to the first node and a sixth transmission media adapted to transmit transit data from the first node to the fourth node;

the second node operable to receive transit data from the fourth transmission media; detect a first fault in the second transmission media, and forward the transit data from the third node received on the fourth transmission media to the third node on the third transmission media; and

the first node operable to receive transit data on the fifth transmission media; and, irrespective of the existence of the first fault, forward the transit data from the fourth node to the second node on the fifth and first transmission media; wherein the first ring includes the first transmission media, the third transmission media, and the fifth transmission media; and wherein

Serial No.: 09/843,021

the second ring includes the second transmission media, the fourth transmission media, and the sixth transmission media.

2. (Original) The network of claim 1, wherein the first node is operable to receive host data; upon not detecting the first fault, multiplex the host data with the transit data received on the fifth transmission media and forward the multiplexed data to the second node on the first transmission media; and upon detecting the first fault, forward the host data to the fourth node on the sixth transmission media.

3. (Original) The network of claim 1, wherein the first node is operable to receive host data and, irrespective of the existence of the first fault, multiplex the host data with the transit data received on the fifth transmission media and forward the multiplexed data to the second node on the first transmission media.

4. (Currently Amended) The network of claim 1, wherein the second node is operable to multiplex first host data received into the second node on a-first the second ring with the transit data received on the first second ring from the third node creating first multiplexed data; forward the first multiplexed data to a-second the first ring; receive second host data onto the second first ring; multiplex the second host data with the first multiplexed data creating second multiplexed data; and forward the second multiplexed data to the third node on the third transmission media.

5. (Original) The network of claim 1, wherein the first through sixth transmission media are fiber.

6. (Original) The network of claim 1, wherein:
the first node is operable to detect a second fault in the first transmission media;
and forward the transit data from the fourth node received on the fifth transmission media to the fourth node on the sixth transmission media.

7. (Currently Amended) The network of claim 6, wherein:

the second node is operable to multiplex first host data received into the second

node on ~~a first~~ the second ring with the transit data received on the ~~first~~

second ring from the third node creating first multiplexed data; forward

the first multiplexed data to ~~a second~~ the first ring; receive second host

data onto the ~~second~~ first ring; multiplex the second host data with the first

multiplexed data creating second multiplexed data; and forward the

second multiplexed data to the third node on the third transmission media;

and

the first node is operable to multiplex third host data received into the first node

on the ~~second~~ first ring with the transit data received on the ~~second~~ first

ring from the fourth node creating third multiplexed data; forward the

third multiplexed data to the ~~first~~ second ring; receive fourth host data

onto the ~~first~~ second ring; multiplex the fourth host data with the third

multiplexed data creating fourth multiplexed data; and forward the fourth

multiplexed data to the fourth node on the sixth transmission media.

8. (Original) The network of claim 1, wherein one or more nodes includes an add/drop multiplexer operable to extract or add host data.

9. (Original) The network of claim 1, wherein the first node detects the first fault by interpreting intelligent protection switching data.

10. (Original) The network of claim 9, wherein the first node is operable to broadcast the first fault to one or more nodes.

11. (Original) The network of claim 1, wherein the first node includes a counter operable to detect the transit data from the second node.

12. (Original) The network of claim 11, wherein the counter is operable to adjust whenever the transit data is not received.

13. (Original) The network of claim 1, wherein the first node is operable to detect an idle frame signal.

14. (Currently Amended) The network of claim 1, wherein ~~the~~ at least one of the first ring and the second ring is a small ring.

15. (Original) In a system that includes first and a second rings coupling two or more nodes, a method for transmitting transit data through the system wherein the first ring is intact and the second ring has a fault between two nodes, the method comprising:

wrapping transit data from a second, faulted ring to a first, intact ring at an

upstream node adjacent to a fault; and

maintaining transit data on the first, intact ring between the upstream node and a

downstream node adjacent to the fault.

16. (Original) The method of claim 15, further comprising:

receiving host data for the first, intact ring at the downstream node; and

maintaining the host data on the first, intact ring.

17. The method of claim 15, further comprising:

receiving host data for the first, intact ring at the downstream node; and

wrapping the host data onto the second, faulted ring.

18. (Original) In a system that includes a first and a second ring coupling two or more nodes, a method for transmitting first and second transit and first and second host data through the system wherein the first and second rings have faults between two nodes, the method comprising:

wrapping in a first node first transit data from the second ring to the first ring;

receiving first host data in the first node along the first ring;

multiplexing the first transit data with the first host data, creating first multiplexed

data;

routing the first multiplexed data along the first ring;

- 5 -

wrapping in a second node second transit data from the first ring to the second ring;

receiving second host data in the second node along the second ring;

multiplexing the second transit data with the second host data, creating a second multiplexed data; and

routing the second multiplexed data along the second ring.

19. (Original) The method of claim 18, further comprising:

receiving third host data in the first node along the second ring;

multiplexing the third host data with the first transit data prior to wrapping the first transit data;

wrapping the third host data with the first transit data from the second ring to the first ring;

receiving fourth host data in the second node along the first ring;

multiplexing the fourth host data with the second transit data prior to wrapping the second transit data; and

wrapping the fourth host data with the second transit data from the first ring to the second ring.

20. (Original) A system that includes a first and a second ring coupling two or more nodes, comprising:

a first node configured to maintain data on a second ring between a first and a second node upon detecting a fault in the first ring between the first and the second nodes; and

a second node configured to wrap the data from the first ring onto the second ring.

21. (Original) The system of claim 20, wherein the first node is configured to receive external data from outside the ring along the second ring; and maintain the external data on the second ring.

Serial No.: 09/843,021

22. (Original) The system of claim 20, wherein the first node is configured to receive external data from outside the ring along the second ring; and wrap the external data onto the first ring.

23-25. (Cancelled)

Serial No.: 09/843,021